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| 09/751,427      | 12/29/2000  | David Bormann        | 42390P9728          | 7647             |

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| EXAMINER |
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HUYNH, KIM T

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| ART UNIT | PAPER NUMBER |
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2189

DATE MAILED: 12/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/751,427

Applicant(s)

BORMANN ET AL.

Examiner

Kim T. Huynh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1-6, 8-12, 14-17, 19-23, 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Arends et al. (US Patent 6,560,712)

As per claims 1,14, Arends discloses an apparatus comprising:

- a configurable link which permits a first level of access if a computer's central processing unit (CPU) is in a first power management state; and (col.4, lines 17-61) wherein normal mode implies first power state and bus arbitration implies configurable link)
- a second level of access if the computer's CPU is in a second power management state. (col.4, lines 17-61) wherein low power mode implies 2<sup>nd</sup> power state)

As per claim 2, Arends discloses wherein the first power management state and the second power management state each comprises a set of power management states. (col.4, lines 17-61)

As per claim 3, Arends discloses the apparatus further comprising a first peripheral device communicatively coupled to the configurable link wherein the first level of access the peripheral device is capable of operating as a conventional peripheral device. (col.2, lines 50-63)

As per claims 4, 15, 20, Arends discloses the apparatus further comprising a first peripheral device communicatively coupled to the configurable link wherein the second level of access the peripheral device is capable of operating as the default bus master for the computer without assistance from the CPU. (col.3, line 28-col.4, line 61), wherein bus arbitration in low power system provide arbitration of system bus independent of operating state of the processor, and system clock control and processor clock control optimize system power consumption and to enable system bus operation while processor remains in a low power.)

As per claims 5, 19, Arends discloses wherein a peripheral device coupled to the configurable link causes the configurable link to operate in the second level of access when the CPU is in a second power management state. (col.3, line 28-col.4, line 61)

As per claims 6, 17, Arends discloses wherein the second power management state the computer's CPU is in a sleeping state. (col.3, line 28-col.4, line 61) wherein low power mode implies sleeping state)

As per claim 8, Arends discloses wherein the second level of access the transfer rate over the configurable link is different than in the first level of access. (col.4, lines 38-41)

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As per claim 9, Arends discloses the apparatus further comprising:

- a first peripheral device coupled to the configurable link; (col.2, lines 50-63), wherein each requesters signal implies for each device) and
- an input/output hub communicatively coupling the configurable link and the central processing unit (CPU)(fig.1, 202). (col.2, lines 50-63, since arbiter is providing, configured signals to enable data and address outputs, it is inherent that it arbiter performs as input/output hub)

As per claim 10, Arends discloses wherein the first level of access, the CPU manages the input/output hub to control communications to and from the first peripheral device. (col.3, line 28-col.4, line 38)

As per claim 11, Arends discloses wherein the second level of access, the configurable link enables the first peripheral device to manage the input/output hub to control communications to and from the first peripheral device. (col.2, lines 50-63), (col.3, line 28-col.4, line 38)

As per claim 12, Arends discloses the apparatus further comprising a second peripheral device communicatively coupled to the input/output hub. (col.2, lines 50-63)

As per claim 21, Arends discloses a system comprising:

- a sub-system to detect the power management state of a central processor; (col.3, line 28-col.4, line 38)

- a sub-system to determine whether the central processor is in a first power management state or a second power management state; (col.4, lines 33-41), wherein normal and low power mode imply 1<sup>st</sup> and 2<sup>nd</sup> state)
- a sub-system to allow the central processor to manage data flow over an input/output hub if the central processor is in a first power management state; and (col.3, line 28-col.4,line 41)
- a sub-system to configure a link coupling the input/output hub to a first peripheral device to allow the first peripheral device to manage data flow over the hub if the central processor is in a second power management state. (col.3, line 28-col.4,line 41)

As per claim 22, Arends discloses the system further comprising a sub-system to initiate a data transfer from the first peripheral device if the central processor is in the second power management state. (col.3, line 28-col.4, line 34)

As per claim 23, Arends discloses the system further comprising a sub-system to buffer data at the first peripheral device if the central processor is in the second power management state. (col.3, line 28-col.4, line 41)

As per claim 25, Arends discloses the system further comprising a sub-system to delay the central processor from transitioning from the second power management state to the first power management state.(col.4, lines 35-61)

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***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arends et al. (US Patent 6,560,712) in view of Odaohhara et al. (US Patent 6,574,740)

Arends discloses all the limitations as above except wherein the second power management state includes power modes s3-s5 as defined in the Advanced Configuration and Power Interface (ACPI) specification. However, Odaohhara discloses ACPI that forms a portion of the OS and upon the detection of the interrupt signal from power controller and passes to ASL to change operation mode of CPU. (col.13, lines 6-47)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Odaohhara's teaching into Arend's method so have the same purposes of controlling power consumption of CPU.

5. Claims 13, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arends et al. (US Patent 6,560,712) in view of Hannah (US Patent 5,784,581)

Arends discloses all the limitations as above except the first peripheral device can communicate directly with the second peripheral device without assistance from the CPU. However, Hanna discloses for the operating a peripheral device as either a master or slave and permitting the device to communicate with other devices directly even though the host is inactive or without requiring an active host (col.2, lines 1-24)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Hanna's teaching into Arend's method so as to detect the CPU for better performance.

### ***Response to Arguments***

6. Applicant's arguments filed on 9/25/03 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (703)305-5384 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 8:30AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815 or via e-mail addressed to [mark.rinehart@uspto.gov]. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306 for regular communications and After Final communications.



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*Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5631.*

Kim Huynh

Dec. 2, 2003



Khanh Dang  
Primary Examiner